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BARR

April 18, 2011

Mr. Jason Gunter
Remedial Project Manager
U.S. Environmental Protection Agency
Region 7 - Superfund Branch
901 North 5th Street
Kansas City, KS 66101

Re: The Doe Run Company – Bonne Terre Superfund Site, Eastern and Western Portions Quarterly Progress Report

Dear Mr. Gunter:

As required by Article VIII, Section 33 of the Administrative Order on Consent (Docket No. CERCLA-7-2000-0024) and Article VIII, Section 29 of the Administrative Order on Consent (Docket No. CERCLA-7-2000-0025) for the referenced projects and on behalf of The Doe Run Company, a progress report for the period January 1, 2011 to March 31, 2011 is enclosed. If you have any questions or comments, please call me at 573-638-5020 or John Carter at 573-244-8152.

Sincerely,

Ty L. Morris, P.E., R.G.
Vice President

TLM/jms
Enclosure
c: John Carter – TDRC
Mark Nations – TDRC
Louis Marucheau – TDRC
Robert Roscoe – TDRC
Steve Batts – TDRC
Robert Hinkson – MDNR
Tim Skoglund – Barr Engineering

Bonne Terre Mine Tailings Site

Bonne Terre, Missouri

Removal Action - Quarterly Progress Report

Period: January 1, 2011 – March 31, 2011

1. **Significant Developments and Work Performed this Period:**

   a. Completed the 1st quarter stormwater sampling event for the southern detention basin sampling point (eastern portion). Results of this sample are included with this report.

2. **Problems Encountered this Period:**

   a. None.

3. **Significant Developments Anticipated and Work Scheduled for Next Period:**

   a. Complete the 2nd quarter 2011 stormwater sampling event for the southern detention basin sampling point.

4. **Planned Resolutions of Past or Anticipated Problems:**

   a. Not applicable.

5. **Changes in Personnel:**

   a. None.

End of Quarterly Progress Report

April 05, 2011

Ty Morris
Barr Engineering Company
1001 Diamond Ridge
Suite 1100
Jefferson City, MO 65109
TEL: (573) 638-5020
FAX: (573) 638-5001

RE: Bonne Terre MTS/25/86-0014 **WorkOrder:** 11031307

Dear Ty Morris:

TEKLAB, INC received 1 sample on 3/31/2011 9:57:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Heather A. White

Heather A. White
Project Manager
(618)344-1004 ex 20
HWhite@teklabinc.com

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

This reporting package includes the following:

Client: Barr Engineering Company
Work Order: 11031307

Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

Abbr Definition

CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
DNI	Did not ignite
DUP	Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MB	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- E - Value above quantitation range
- H - Holding times exceeded
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- X - Value exceeds Maximum Contaminant Level

Client: Barr Engineering Company
Client Project: Bonne Terre MTS/25/86-0014

Work Order: 11031307
Report Date: 05-Apr-11

Cooler Receipt Temp: 2.0 °C

Locations and Accreditations

Collinsville		Springfield		Kansas City	
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	3920 Pintail Dr Springfield, IL 62711-9415	Address	8421 Nieman Road Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	kmcclain@teklabinc.com	Email	dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2012	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2012	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2011	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2011	Springfield
Arkansas	ADEQ	88-0966		3/14/2012	Collinsville
Illinois	IDPH	17584		5/31/2011	Collinsville
Kentucky	UST	0073		5/26/2012	Collinsville
Missouri	MDNR	00930		5/31/2011	Collinsville
Oklahoma	ODEQ	9978		8/31/2011	Collinsville

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11
Lab ID: 11031307-001
Client Sample ID: BTE-1QTR-11
Matrix: AQUEOUS
Collection Date: 03/30/2011 9:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	100		248	mg/L	2	04/01/2011 11:34	R147642
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.68		1	03/31/2011 12:00	R147537
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO3)	NELAP	5		540	mg/L	1	04/01/2011 8:45	R147625
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6		< 6	mg/L	1	04/04/2011 10:30	R147660
STANDARD METHODS 18TH ED. 2540 F								
Solids, Settleable	NELAP	0.1		< 0.1	ml/L	1	03/31/2011 13:30	R147557
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		1.9	mg/L	1	04/04/2011 7:48	R147674
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	04/01/2011 17:12	67014
Zinc	NELAP	10.0		62.0	µg/L	1	04/01/2011 17:12	67014
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	04/01/2011 21:24	66989
Zinc	NELAP	10.0		64.9	µg/L	1	04/01/2011 21:24	66989
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	2.00		< 2.00	µg/L	1	04/01/2011 12:14	66991
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	2.00		8.07	µg/L	1	04/01/2011 17:59	66971

Client: Barr Engineering Company
Client Project: Bonne Terre MTS/25/86-0014

Work Order: 11031307
Report Date: 05-Apr-11

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
11031307-001	BTE-1QTR-11	Aqueous	5	03/30/2011 9:10

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date / Prep Date/Time	Analysis Date/Time
11031307-001A	BTE-1QTR-11	03/30/2011 9:10	3/31/2011 9:57:00 AM	
	Standard Methods 18th Ed. 2540 F			03/31/2011 13:30
11031307-001B	BTE-1QTR-11	03/30/2011 9:10	3/31/2011 9:57:00 AM	
	EPA 600 375.2 Rev 2.0 1993 (Total)			04/01/2011 11:34
	Standard Method 18th Ed. 4500-H B, Laboratory Analyzed			03/31/2011 12:00
	Standard Methods 18th Ed. 2340 C			04/01/2011 8:45
	Standard Methods 18th Ed. 2540 D			04/04/2011 10:30
11031307-001C	BTE-1QTR-11	03/30/2011 9:10	3/31/2011 9:57:00 AM	
	EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total)		03/31/2011 14:00	04/01/2011 21:24
	Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA		03/31/2011 12:16	04/01/2011 17:59
11031307-001D	BTE-1QTR-11	03/30/2011 9:10	3/31/2011 9:57:00 AM	
	EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved)		04/01/2011 8:37	04/01/2011 17:12
	Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)		03/31/2011 14:42	04/01/2011 12:14
11031307-001E	BTE-1QTR-11	03/30/2011 9:10	3/31/2011 9:57:00 AM	
	Standard Methods 18th Ed. 5310 C, Organic Carbon			04/04/2011 7:48

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R147642 **SampType:** MBLK Units mg/L
SampID: MB-R147642

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	50		< 50						04/01/2011

Batch R147642 **SampType:** LCS Units mg/L
SampID: LCS-R147642

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	50		153	150	0	101.8	90	110	04/01/2011

STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED

Batch R147537 **SampType:** LCS Units
SampID: LCS-R147537

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab pH	1.00		7.01	7.00	0	100.1	99.1	100.9	03/31/2011

Batch R147537 **SampType:** DUP Units RPD Limit 10
SampID: 11031307-001BDUP

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH	1.00		7.67				7.680	0.13	03/31/2011

STANDARD METHODS 18TH ED. 2340 C

Batch R147625 **SampType:** MBLK Units mg/L
SampID: MB-R147625

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Hardness, as (CaCO3)	5		< 5						04/01/2011

Batch R147625 **SampType:** LCS Units mg/L
SampID: LCS-R147625

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Hardness, as (CaCO3)	5		1000	1000	0	100	90	110	04/01/2011

Batch R147625 **SampType:** MS Units mg/L
SampID: 11031307-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Hardness, as (CaCO3)	5		920	400	540.0	95.0	85	115	04/01/2011

Batch R147625 **SampType:** MSD Units mg/L RPD Limit 10
SampID: 11031307-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Hardness, as (CaCO3)	5		940	400	540.0	100	920.0	2.15	04/01/2011

STANDARD METHODS 18TH ED. 2540 D

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

STANDARD METHODS 18TH ED. 2540 D

Batch R147660 **SampType:** MBLK Units mg/L
SampID: MB-R147660

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Suspended Solids	6		< 6						04/04/2011

Batch R147660 **SampType:** LCS Units mg/L
SampID: LCS-R147660

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Suspended Solids	6		94	100	0	94.0	85	115	04/04/2011
Total Suspended Solids	6		100	100	0	100	85	115	04/04/2011
Total Suspended Solids	6		98	100	0	98.0	85	115	04/04/2011
Total Suspended Solids	6		95	100	0	95.0	85	115	04/04/2011
Total Suspended Solids	6		95	100	0	95.0	85	115	04/04/2011

Batch R147660 **SampType:** DUP Units mg/L RPD Limit 15
SampID: 11031307-001BDUP

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Suspended Solids	6		< 6				0	0.00	04/04/2011

STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON

Batch R147674 **SampType:** MBLK Units mg/L
SampID: MB-R147674

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	1.0		< 1.0						04/04/2011

Batch R147674 **SampType:** LCS Units mg/L
SampID: LCS-R147674

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	5.0		39.6	40.4	0	97.9	88.9	111.1	04/04/2011

EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)

Batch 66989 **SampType:** MBLK Units µg/L
SampID: MB-66989

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	04/01/2011
Zinc	10.0		< 10.0	10.0	0	0	-100	100	04/01/2011

Batch 66989 **SampType:** LCS Units µg/L
SampID: LCS-66989

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		48.8	50.0	0	97.6	85	115	04/01/2011
Zinc	10.0		483	500	0	96.5	85	115	04/01/2011

Client: Barr Engineering Company **Work Order:** 11031307

Client Project: Bonne Terre MTS/25/86-0014 **Report Date:** 05-Apr-11

EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)

Batch 66989 **SampType:** MS Units µg/L

SampID: 11031307-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		**46.4**	50.0	0	92.8	75	125	04/01/2011
Zinc	10.0		**524**	500	0.06490	91.8	75	125	04/01/2011

Batch 66989 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 11031307-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cadmium	2.00		**46.6**	50.0	0	93.2	46.4	0.43	04/01/2011
Zinc	10.0		**527**	500	0.06490	92.4	524	0.59	04/01/2011

Batch 67014 **SampType:** MBLK Units µg/L

SampID: MB-67014

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		**< 2.00**	2.00	0	0	-100	100	04/01/2011
Zinc	10.0		**< 10.0**	10.0	0	26.0	-100	100	04/01/2011

Batch 67014 **SampType:** LCS Units µg/L

SampID: LCS-67014

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		**48.8**	50.0	0	97.6	85	115	04/01/2011
Zinc	10.0		**488**	500	0	97.5	85	115	04/01/2011

Batch 67014 **SampType:** MS Units µg/L

SampID: 11031307-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		**47.0**	50.0	0	94.0	75	125	04/01/2011
Zinc	10.0		**530**	500	0.06200	93.6	75	125	04/01/2011

Batch 67014 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 11031307-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cadmium	2.00		**46.3**	50.0	0	92.6	47	1.50	04/01/2011
Zinc	10.0		**525**	500	0.06200	92.6	530.2	0.99	04/01/2011

EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)

Batch 66989 **SampType:** MBLK Units µg/L

SampID: MB-66989

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		**< 2.00**	2.00	0	0	-100	100	04/01/2011
Zinc	10.0		**< 10.0**	10.0	0	0	-100	100	04/01/2011

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)

Batch 66989 **SampType:** LCS Units µg/L
SampID: LCS-66989

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		48.8	50.0	0	97.6	85	115	04/01/2011
Zinc	10.0		483	500	0	96.5	85	115	04/01/2011

Batch 66989 **SampType:** MS Units µg/L
SampID: 11031307-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		46.4	50.0	0	92.8	75	125	04/01/2011
Zinc	10.0		524	500	0.06490	91.8	75	125	04/01/2011

Batch 66989 **SampType:** MSD Units µg/L RPD Limit **20**
SampID: 11031307-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cadmium	2.00		46.6	50.0	0	93.2	46.4	0.43	04/01/2011
Zinc	10.0		527	500	0.06490	92.4	524	0.59	04/01/2011

Batch 67014 **SampType:** MBLK Units µg/L
SampID: MB-67014

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	04/01/2011
Zinc	10.0		< 10.0	10.0	0	26.0	-100	100	04/01/2011

Batch 67014 **SampType:** LCS Units µg/L
SampID: LCS-67014

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		48.8	50.0	0	97.6	85	115	04/01/2011
Zinc	10.0		488	500	0	97.5	85	115	04/01/2011

Batch 67014 **SampType:** MS Units µg/L
SampID: 11031307-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		47.0	50.0	0	94.0	75	125	04/01/2011
Zinc	10.0		530	500	0.06200	93.6	75	125	04/01/2011

Batch 67014 **SampType:** MSD Units µg/L RPD Limit **20**
SampID: 11031307-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Cadmium	2.00		46.3	50.0	0	92.6	47	1.50	04/01/2011
Zinc	10.0		525	500	0.06200	92.6	530.2	0.99	04/01/2011

STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)

Client: Barr Engineering Company **Work Order:** 11031307

Client Project: Bonne Terre MTS/25/86-0014 **Report Date:** 05-Apr-11

STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)

Batch 66971 **SampType:** MBLK Units µg/L

SampID: MB-66971

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		< 2.00	2.00	0	0	-100	100	04/01/2011

Batch 66971 **SampType:** LCS Units µg/L

SampID: LCS-66971

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		14.0	15.0	0	93.2	80	120	04/01/2011

Batch 66971 **SampType:** MS Units µg/L

SampID: 11031307-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	4.00		20.5	15.0	0.008072	82.7	70	130	04/01/2011

Batch 66971 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 11031307-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lead	4.00		21.0	15.0	0.008072	86.0	20.48	2.38	04/01/2011

Batch 66991 **SampType:** MBLK Units µg/L

SampID: MB-66991

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		< 2.00	2.00	0	0	-100	100	04/01/2011

Batch 66991 **SampType:** LCS Units µg/L

SampID: LCS-66991

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		13.3	15.0	0	88.4	80	120	04/01/2011

Batch 66991 **SampType:** MS Units µg/L

SampID: 11031307-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		15.3	15.0	0.0007570	96.9	70	130	04/01/2011

Batch 66991 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 11031307-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lead	2.00		15.1	15.0	0.0007570	95.8	15.2956	1.08	04/01/2011

STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA

Batch 66971 **SampType:** MBLK Units µg/L

SampID: MB-66971

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		< 2.00	2.00	0	0	-100	100	04/01/2011

Client: Barr Engineering Company
Work Order: 11031307
Client Project: Bonne Terre MTS/25/86-0014
Report Date: 05-Apr-11

STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA

Batch 66971 **SampType:** MBLK Units µg/L
SampID: MB-66971

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed

Batch 66971 **SampType:** LCS Units µg/L
SampID: LCS-66971

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		**14.0**	15.0	0	93.2	80	120	04/01/2011

Batch 66971 **SampType:** MS Units µg/L
SampID: 11031307-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	4.00		**20.5**	15.0	0.008072	82.7	70	130	04/01/2011

Batch 66971 **SampType:** MSD Units µg/L RPD Limit **20**
SampID: 11031307-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lead	4.00		**21.0**	15.0	0.008072	86.0	20.48	2.38	04/01/2011

Batch 66991 **SampType:** MBLK Units µg/L
SampID: MB-66991

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		**< 2.00**	2.00	0	0	-100	100	04/01/2011

Batch 66991 **SampType:** LCS Units µg/L
SampID: LCS-66991

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		**13.3**	15.0	0	88.4	80	120	04/01/2011

Batch 66991 **SampType:** MS Units µg/L
SampID: 11031307-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	2.00		**15.3**	15.0	0.0007570	96.9	70	130	04/01/2011

Batch 66991 **SampType:** MSD Units µg/L RPD Limit **20**
SampID: 11031307-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lead	2.00		**15.1**	15.0	0.0007570	95.8	15.2956	1.08	04/01/2011

Receiving Check List

Client: Barr Engineering Company
Client Project: Bonne Terre MTS/25/86-0014

Work Order: 11031307
Report Date: 05-Apr-11

Carrier: Jacob Grimes

Received By: TWM

Completed by: Timothy W. Mathis
On: 31-Mar-11

Reviewed by: Elizabeth A. Hurley
On: 31-Mar-11

Pages to follow: Chain of custody [1] Extra pages included [0]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		Temp °C	2.0	
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐		Dry Ice	☐	
Chain of custody present?	Yes ☑	No ☐					
Chain of custody signed when relinquished and received?	Yes ☑	No ☐					
Chain of custody agrees with sample labels?	Yes ☑	No ☐					
Samples in proper container/bottle?	Yes ☑	No ☐					
Sample containers intact?	Yes ☑	No ☐					
Sufficient sample volume for indicated test?	Yes ☑	No ☐					
All samples received within holding time?	Yes ☑	No ☐					
Reported field parameters measured:	Field ☐	Lab ☑	NA ☐				
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐					

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - vials have zero headspace?	Yes ☐	No ☐	No VOA vials	☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐		

Any No responses must be detailed below or on the COC.

CHAIN OF CUSTODY

pg. 1 of 1 Work Order # 11031307

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: The Doe Run Company
Address: P.O. Box 500
City / State / Zip: Viburnum, MO 65566
Contact: John Carter Phone: 573 244 8152
E-Mail: jcarter@doerun.com Fax: 573 244 8642

Samples on: ☑ Ice ☐ Blue Ice ☐ None 2.0 BC
Preserved in: ☐ Lab ☑ Field
FOR LAB USE ONLY
Lab Notes: BC 03/31/11

Comments: Invoice to John Carter
Results to John Carter & Ty Morris tmorris@doerun.com
Metals = cd, pb, zn

Teklab Inc. Bonne Terre

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☒ No
- Are these samples known to be hazardous? ☐ Yes ☒ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☐ Yes ☒ No

Project Name / Number: Bonne Terre mfg / 25/86-0019
Sample Collector's Name: Chris Schulte

Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ☐ 3 Day (50% Surcharge)
Billing Instructions: Per Contract w/ Doe Run

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUIRED: pH	TSS	Sulfate	Settleable Solids	TOC	Total metals	Dissolved metals	Hardness
11031307-001	BTE-1 GTR -11	3/30/11 9:10	2	2		1					X					X	X	X	X	X	X	X	X

Relinquished By	Date / Time	Received By	Date / Time
Chris Schulte / BC	16:30 3/30/11		3/30/11 0827
	3/30/11 0957		3.31.11 0957

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement. on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW – LAB PINK – SAMPLER'S COPY